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In Re Patent Application of:
RIMI ET AL.
Serial No: NOT YET ASSIGNED
Filing Date: HERewith

In the Claims:

Claims 1-17 (cancelled).

18. (New) A cellular communications method for a cellular communications system using a plurality of synchronization codes and comprising:

during a first time interval, performing slot synchronization by using at least one correlator to correlate a received signal with synchronization codes in a primary sequence to generate corresponding synchronization values; and

during a second time interval, performing frame synchronization and cell codegroup identification by using the at least one correlator to correlate the received signal with synchronization codes in a secondary sequence to generate corresponding synchronization values.

19. (New) The method of Claim 18 further comprising enabling the at least one correlator by generating an enable signal therefor during the second time interval.

20. (New) The method of Claim 18 wherein the at least one correlator comprises first and second filters; and further comprising:

arranging the secondary sequence into a first portion and a second portion; and

providing the first portion of the secondary sequence to the first filter, and the second portion of the secondary sequence to the second filter.

21. (New) The method of Claim 20 further comprising switching from the correlation of one synchronization code in the secondary sequence to another by changing values of the second portion of the secondary sequence.

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22. (New) The method of Claim 21 wherein the primary sequence has a plurality of weights associated therewith; and further comprising changing signs on at least one of the weights to switch from the primary sequence to the first portion of the secondary sequence.

23. (New) A cellular communications device for a cellular communications system using a plurality of synchronization codes comprising:

at least one correlator for correlating a received signal with synchronization codes in a primary sequence during a first time interval to generate corresponding synchronization values, and for correlating the received signal with synchronization codes in a secondary sequence during a second time interval to generate corresponding synchronization values; and

a processor for performing slot synchronization, frame synchronization, and cell codegroup identification based upon the corresponding synchronization values.

24. (New) The cellular communications device of Claim 23 wherein said at least one correlator comprises first and second filters, wherein the secondary sequence is arranged into a first portion and a second portion, wherein the first portion of the secondary sequence is provided to the first filter, and wherein the second portion of the secondary sequence is provided to the second filter.

25. (New) A cellular communications device for a cellular communications system using a plurality of synchronization codes comprising:

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at least one correlator for correlating a received signal and synchronization codes in a primary sequence for performing slot synchronization on a primary channel, and for correlating the received signal and synchronization codes in a secondary sequence for obtaining corresponding values thereof;

a detector for determining at least one maximum value from among the corresponding values and identifying a number of the synchronization codes based thereon; and

a processor for determining the frame synchronization and for identifying the codegroup based upon the number of synchronization codes.

26. (New) The device of Claim 25 further comprising a controller for generating at least one enabling signal for controlling switching of said at least one correlator between the primary sequence and the secondary sequence.

27. (New) The device of Claim 25 wherein said at least one correlator comprises a first matched filter and a second matched filter connected in series.

28. (New) The device of Claim 27 further comprising a plurality of masking circuits connected downstream from said second filter.

29. (New) The device of Claim 28 wherein said second filter comprises a plurality of outputs; and wherein said masking circuits are arranged in parallel, each masking circuit being connected to a respective output of said second filter.

30. (New) The device of Claim 28 wherein said second filter comprises a plurality of outputs; wherein said

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masking circuits have weights associated therewith for weighting the outputs of said second filter; and further comprising a code generator for causing said masking circuits to change respective weights.

31. (New) The device of Claim 28 wherein at least some of said masking circuits are arranged in a set of masks corresponding to a first code set; and further comprising a circuit for determining remaining synchronization codes belonging to a subset identified by said processor.

32. (New) The device of Claim 27 wherein said second filter comprises:

a plurality of chains of memory elements, said chains of memory elements being connected in series; and
a selector for selectively removing from said series at least one of said chains.

33. (New) The device of Claim 25 wherein the received signal complies with Code-Division Multiplex Access/Third-Generation Partnership Project Frequency Division Duplex (CDMA/3GPP FDD) standard.

34. (New) The device of Claim 25 wherein the received signal complies with Code-Division Multiplex Access/Third-Generation Partnership Project Time Division Duplex (CDMA/3GPP TDD) standard.

35. (New) The device of Claim 25 wherein the received signal complies with at least one of the Universal Mobile Telephone Service (UMTS), Code-Division Multiple Access 2000 (CDMA2000), IS95, and WBCDMA standards.

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36. (New) A computer-readable medium having computer-executable instructions for performing steps comprising:

during a first time interval, performing slot synchronization by using at least one correlator to correlate a received signal with synchronization codes in a primary sequence to generate corresponding synchronization values; and

during a second time interval, performing frame synchronization and cell codegroup identification by using the at least one correlator to correlate the received signal with synchronization codes in a secondary sequence to generate corresponding synchronization values.

37. (New) The computer readable medium of Claim 36 wherein the at least one correlator comprises first and second filters; and further comprising computer-executable instructions for performing steps comprising:

arranging the secondary sequence into a first portion and a second portion; and

providing the first portion of the secondary sequence to the first filter, and the second portion of the secondary sequence to the second filter.